

ABSTRACT OF THE DISCLOSURE

Systems and methods for identifying foreign objects and debris (FOD) and defects during fabrication of a composite structure. The system includes at least one light source positioned to emit light that illuminates a portion of the composite structure with bright field illumination and that also illuminates another portion of the composite structure with dark field illumination. The bright field illumination is reflected differently by defects in the composite structure than from portions of the composite structure that are defect free. The dark field illumination is reflected differently by FOD on the composition structure than from surfaces of the composite structure that are FOD free. The system also includes at least one camera for receiving images of the illuminated portions of the composite structure. The images received by the camera may be processed by a processor which then outputs a response identifying defects and foreign objects and debris based on the images.